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FREE-LIVING NEMATODES

BY

CARL ALLGÉN

ESLÖV

mmer 1951 Prof. O. NYBELIN (Natural y Museum, Gothenburg) sent me for nination 2 free-living Nematodes, captured mple from 4540—4600 m by the Swedish Sea Expedition 1948.

larger specimen is a representative of eptosomatids, belonging to the genus *omatum* BASTIAN, the smaller specimen species of the genus *Desmodora* DE MAN.

Leptosomatum bathybium n. sp.

Fig. 1.

e r i a l: St. 387 (Haul No. 13), N 40° 33′ 35° 24′ — N 40° 34′ W 35° 52′, Sept. 7th 8; depth 4,540—4,600 m. 1 specimen (♂) one of the drags.

nensions:

length ..... = 14.602 mm, α = 115.89
thickness ... = 0.126 mm, β = 9.72
h of the oesoph = 1.502 mm, γ = 112.32
h of the tail . = 0.130 mm.

very large, elongated species, the body of is of about the same thickness throughout nole length.

icle thick and smooth. The head is a asymmetric, indistinctly demarcated from dy, rather short, provided in the constric- with 4 pairs of short and stout submedian es.

oesophagus is of medium length, strongly ular, in the foremost part finely granulated, out uniform thickness, and increasing only ds the posterior end, and then scarcely ably.

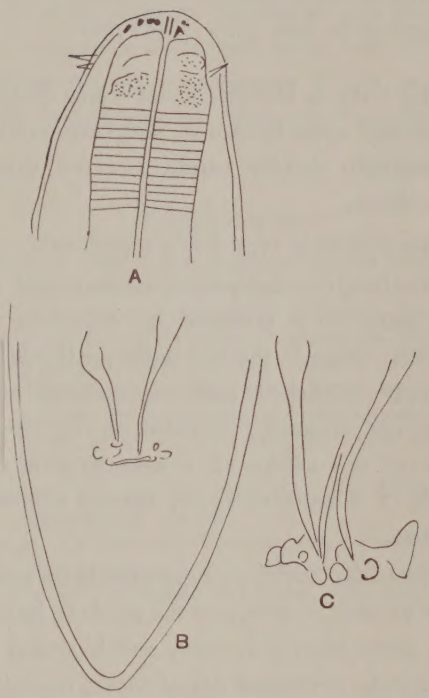

Fig. 1. *Leptosomatum bathybium* n. sp. a. Anterior end. × 450, b. Tail. × 270, c. Spicules, × 450.

The tail is very short, conical, posteriorly rounded, provided with a few slender hairs.

On account of the position of the young animal on the mount it was very difficult to determine its sex. With the use of an immersion lens I have, however, discovered in the posterior part of the body two organs, in which I think that I have found the short, very slender spicules, swollen at the proximal ends, and the clumsy, irregularly shaped accessory piece. The spicules differ from those of all hitherto known species of the genus.

Desmodora nybelini n. sp.

Fig. 2.

Material: St. 387 (Haul No. 13), N 40° 35′ W 35° 24′ — N 40° 34′ W 35° 52′, Sept. 7th 1948; depth 4,540—4,600 m. 1 specimen (♂).

Dimensions:

Body length ..... = 2.804 mm, α = 40.06
Max. thickness ..... = 0.071 mm, β = 11.78
Length of the oesoph. = 0.238 mm, γ = 22.8
Length of the tail ... = 0.123 mm.

The body is slender, in its whole length of absolutely even thickness, and surrounded by exceedingly slender bands, situated close to each other.

The cuticle is very finely annulated.

The head — indistinctly demarcated from the body — is bordered by chitinous walls (cuticle), being in the two posterior thirds more strongly thickened and unannulated, at the front end truncate, provided at the foremost part of the thickened cuticle with a single circle of 4 pairs of short, slender submedian bristles.

The buccal cavity — supported in its anterior part by ribs — seems on the whole to be small, and wider than it is deep, and is armed with a strongly developed dorsal tooth, opposite to which is situated a smaller, ventral tooth.

The lateral organs are situated only 9.8 μ behind the front end, and are spiral-shaped, composed of about 3 whorls, and large, in transverse section 18 μ, i. e. about 0.39 of the corresponding head diameter.

These organs are of approximately uniform cross section and in shape and structure similar to those of *Desmodora tenuispiculum* Allgén, but differ from that southern species in the whorls not being situated so close to each other as in that species.

The tail and the spicules seem to show a certain similarity to the old species *Spirina parasitifera* (Bastian).

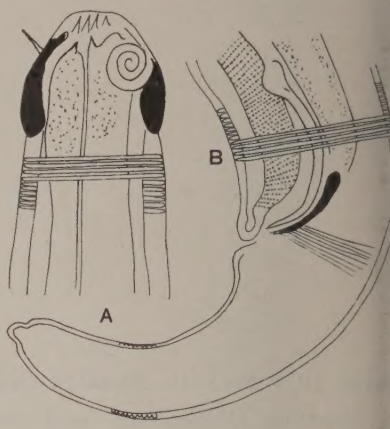

Fig. 2. *Desmodora nybelini* n. sp. a. Anterior par body. × 450, b. Tail and spicular apparatus.

The tail is short, cylindro-conical, c posteriorly rounded, with some sublatera ventrally. It contains 3 glands.

Male gonad slender, extended far ante

Moreover the spicules are short and c at the proximal ends strongly button-lik swollen.

The accessory piece is developed as plate, situated behind the spicules and long as these.

On the occurrence of free-living Nema at great depths, especially below 3,0

Compared with the depths from whi two nematodes described in this paper ori the depths from which nematodes hav monly been known are to be regar inconsiderable, for most of these anim known from the shore or from shallow offshore.

Only exceptionally have nematode described in material dredged from depths by scientific expeditions.

Of the numerous nematodes described author (1951) from different parts of the only a single species, *Leptosomatum* Allgén, has been mentioned from a d 400, m in the Sagami Sea (Japan), a

est depth from which nematodes were ded by the Swedish Antarctic Expedition —1903) was 920 m (Graham Land).
e arctic nematodes described by FILIPJEV) all come from depths of less than 1,000 m.
ly DITLEVSEN (1926), in his work on the todes recorded by the Ingolf Expedition, escribed species from greater depths, and only 3 among 32 different species, namely: *olaimus filicaudatus* (3,376 m), *C. grön-cus* (2,194 m) and *Enoplus constrictus* 8 m).
ncerning these finds DITLEVSEN (1926, p. 1) rks as follows: »As to the bathymetrical bution, I shall only point out that free-living atodes were found unto the greatest depths; Nematodes are present from a depth of fms — strange enough in a good condition e station which in respect to depth is next d near by the greatest depth altogether ed by the expedition, which was 1,870 or only 25 fms. deeper».
reality, free-living nematodes probably also at the greatest depths, even in *pure* in which type of bottom the author (1929) ound nematodes from the Discovery Bay, rctis (550 m) and (1946) from the vicinity omsö (Lopphavet), Norway (200—250 m).

That no nematodes have hitherto been described from greater depths is due to the fact that these animals are mostly too small to be discovered in the sorting-work of the expeditions, and cannot be picked out except under the microscopes of the specialists in the laboratories.

The record of *Cylicolaimus filicaudatus* from a depth of 3,376 m (DITLEVSEN 1926) was as far as I know the only one hitherto from depths greater than 3,000 m. To this we now can add the two species described above from 4,540—4,600 m, which consequently is the greatest depth from which any nematodes are known.

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